IN THE SPECIFICATION:

Please replace the paragraphs of specification page 1, line 4 -through- page 2 line 6 with the following replacement paragraphs:

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Cross-Reference To Related Applications

The subject application is related to the following copending applications:

U.S. Patent Application Serial No. 09/106,478 [(Atty. Docket No. 112025-0077)] U.S. Patent Number 6,513,108, Issued January 28, 2003, filed June 29, 1998, entitled "PROGRAMMABLE ARRAYED PROCESSING ENGINE ARCHITECTURE FOR A NETWORK SWITCH";

U.S. Patent Application Serial No. 09/106,436 [(Atty. Docket No. 112025-0079)] , U. S. Patent Number 6,195,739, Issued February 27, 2001, entitled, "ARCHITECTURE FOR A PROCESSOR COMPLEX OF AN ARRAYED PIPELINED PROCESSING ENGINE," filed June 29, 1998;

U.S. Patent Application Serial No. 09/106,244 [(Atty. Docket No. 112025-83)] U.S. Patent Number 6,101,599, Issued August 8, 2000, entitled, "SYSTEM FOR CONTEXT SWITCHING BETWEEN PROCESSING ELEMENTS IN A PIPELINE OF PROCESSING ELEMENTS," filed June 29, 1998;

U.S. Patent Application Serial No. 09/106,246 [(Atty. Docket No. 112025-0084)], U.S. Patent Number 6,119,215, Issued September 12, 2000, entitled, "SYNCHRONIZATION AND CONTROL SYSTEM FOR AN ARRAYED PROCESSING ENGINE," filed June 29, 1998;

U.S. Patent Application Serial No. 09/213,291 [(Atty. Docket No. 112025-0085)] U.S. Patent Number 6,173,386, Issued January 9, 2001, entitled "PARALLEL PROCESSOR WITH DEBUG CAPABILITY," filed December 14, 1999;

U.S. Patent Application Serial No. 09/216,519 (Atty. Docket No. 112025-112), entitled "TIGHTLY COUPLED SOFTWARE PROTOCOL DECODE WITH HARDWARE DATA ENCRYPTION," filed December 18, 1998; and

U.S. Patent Application Serial No. 09/212,314 [(Atty. Docket No. 112025-118)], U.S. Patent Number 6,385,747, Issued May 7, 2002, entitled "TESTING OF REPLICATED COMPONENTS OF ELECTRONIC DEVICE," filed December 14, 1998.

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Please replace the full paragraph of specification page 14, line 15 -through page 15 line 2 with the following replacement paragraph:

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More specifically, as shown in Figure 5, hybrid model 200 includes both estimated HA functions 90, 92 of portions of the design 100, and physically-accurate descriptions 93 [92], 94, 96 (i.e., actual physical characteristics) of other portions of the design 100. That is, function 90 is an HA-based estimated function of the overall timing operation of the blocks 60, 62, 64 of the module 65. Function 92 is an HA-based estimated function of the overall timing operation of the blocks 74, 76 of the module 67. In hybrid model 200, the actual physical characteristics (e.g., as stored in the SPEF and SDF databases 46, 48) of the block 66, network connection 70, and block 72 are used along with these functions 90, 92 to permit the timing operation of the design 100 to be simulated more accurately than is possible when such simulation is based upon HA-based model 150.

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Please replace the FIRST full paragraph of specification page 15, lines 3-18 with the following replacement paragraph:

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That is, in simulating the timing operation of the design 100, in addition to using the timing constraint commands provided by the generator 26, the engine 32 uses the HA function 90 to estimate the overall timing operation of the portion of the module 65 that comprises blocks 60, 62, 64. Similarly, the engine 32 uses the HA function 92 to estimate the overall timing operation of the portion of the module 67 that comprises blocks 74 and 76. However, the engine 32 calculates the respective timing operations of block 66, connection 70, and block 76 using the respective actual physically characteristics 93 [92], 94, 96 of these components 66, 70, 76. In order to calculate the overall timing operation of the design 100, the timing operations calculated using the functions 90, 92, and descriptions 93 [92], 94, 96 may be combined.

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Please replace the full paragraph of specification page 15, line 22 -through page 16 line 19 with the following replacement paragraph:

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Alternatively, the engine 30 may implement a process that optimally selects the portion of the design 100 that is to be modeled using physical characteristics instead of HA functions. According to this process, the portion of design 100 that is to be modeled using physical characteristics is selected based upon empirically-determined simulation optimization rules that have been determined to maximize possibility of increasing accuracy of the simulation without unduly increasing the processing overhead required to generate the simulation. For example, as is often the case in designs such as design 100 that comprise an intermodule cross-chip connection 70, it has been empirically determined that optimal results in terms of maximizing accuracy of the simulation without unduly increasing the processing overhead required for the simulation tend to occur when the physical characteristics of connection 70 and function blocks (e.g., blocks 66 and 72) that are directly connected to the connection 70 are simulated using their physical characteristics instead of HA functions. Based upon this empirically-determined rule, the engine 30 may modify the model 150 by essentially "repartitioning" the boundaries of the HA functions such that blocks 60, 62, 64 in one module 65 that are not directly connected to the connection 70 are modeled using one HA function 90, blocks 74, 76 that are in the

other module 67 and are also not directly connected to connection 70 are modeled using another HA function 92, and the blocks 93 [92], 96 that are connected to connection 70, and connection 70 itself, are modeled using their physical characteristics 93, 94, 96. As will be appreciated, engine 30 may be programmed with additional empirically-determined optimization rules for optimally modifying other designs in accordance with this process.

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